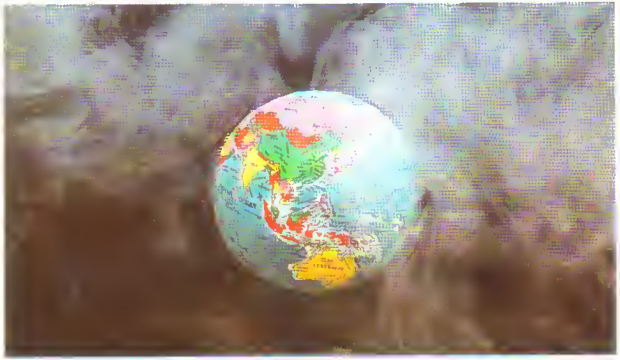
suffering" caused by climate change



"The scientists point to six areas in which humanity should take immediate steps to slow down the effects of a warming planet:

1. ENERGY

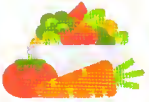
Implement massive conservation practices; replace fossil fuels with low-carbon renewables; leave remaining stocks of fossil fuels in the ground; eliminate subsidies to fossil fuel companies; and impose carbon fees that are high enough to restrain the use of fossil fuels.

2. SHORT-LIVED POLLUTANTS

Swiftly cut emissions of methane, soot, hydrofluorocarbons and other short-lived

potential for sequestering atmospheric carbon dioxide, a key greenhouse gas.

4. FOOD



Eat more plants and consume fewer animal products. The dietary shift would significantly reduce emissions of methane and other greenhouse gases and free up agricultural lands for growing human food rather than livestock feed. Reducing food waste is also critical - the scientists say at least one-third of all food produced ends up as garbage.

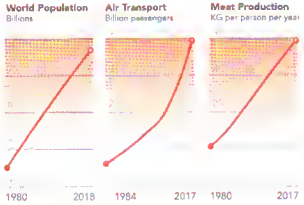
5. ECONOMY

Convert the economy to one that is carbon free to address human

"Mitigating and adapting to climate change while honoring the diversity of humans entails major transformations in the ways our global society functions and interacts with natural ecosystems," the paper states. "We are encouraged by a recent surge of concern. Governmental bodies are making climate emergency declarations. School children are striking. Ecocide lawsuits are proceeding in the courts. Grassroots citizen movements are demanding change, and many countries, states and provinces, cities, and businesses are responding. As an Alliance of World Scientists, we stand ready to assist decision makers in a just transition to a sustainable and equitable future."

Read if it you haven't, hear in open-access format at BioScience: https://academic.oup.com/bioscience/advance-article/doi/10.1093/biosci/biz088/5610806?searchresult=1&fbclid=IwAR3LGYHhxwj9xLk1rx5g9YKBfRAjABWAbO9jvtF25qDwxvVU9d9KbrbDgA

'Profoundly troubling signs' - drivers of the climate emergency



'Encouraging signs' - trends

NESTS DISCOVERY

A team from Nature Kenya and Dakatcha Woodland Conservation Group found Clarke's Weavers nesting in Warisesemulu wetland north of Adu on 22 November 2019. The wetland is part of the land that Nature Kenya is purchasing as a nature reserve for Clarke's Weaver, Sokoke Pipit and other threatened wildlife.

Clarke's Weavers may now be called Kilifi Weavers, as they are only found in Kilifi County – nowhere else in the world. They were observed nesting at the same wetland on 7 December 2018. This year the "short rains" season started early and has been heavy in many parts of Kenya, thereby providing good nesting habitat earlier than last year.

VULTURE DEATHS

Five vultures last month died in Maasai Mara from a suspected poisoning incident. The incident took place at Ol Kinyei Conservancy and involved two Lappet-faced and three Ruppell's vultures. Five other vultures were treated. The vultures are said to have fed on a poison-laced hyena carcass. Once again, swift action by

PHOTO BY NATHANIEL

Courgette on one of the farms owned by Ngangao Farmers.

Promoting climate resilience in Taita

BY GILBAY OBUNGA

Communities across Kenya are not only feeling the presence of climate variability and change but also its impacts. Climate change has resulted in prolonged drought, and high incidence of pests and diseases, affecting livestock and crop production negatively. This year the 'long rains' were late and short while the 'short rains' were long and heavy. Through the 'People Partner with Nature' program, Nature Kenya has been supporting initiatives aimed at helping communities in Taita and Kilifi counties adapt to climate change through participatory forest and natural resource management.

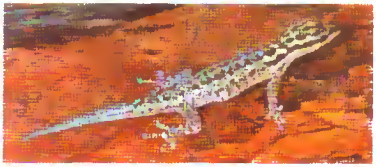
In Taita Hills, community members are employing various adaptation strategies to counter the effects of climate change. Climate-smart agriculture is one such approach. It refers to agricultural practices geared at sustainably increasing productivity, building resilience to climate change and reducing greenhouse gas emissions. Climate-smart agriculture includes the integration of tree planting with crop and livestock production as a package. Six self-help groups affiliated to Dawida Biodiversity Conservation Group (DaBiCo), the Taita Hills forests' site support group, have embraced this approach. The groups are Ndiwenyi Community Unit, Ngangao Farmers Group, Mwavunyu Chakiloli, Iyale Angamiza, Wuchichi Self Help Group and Mghange Dawida Mazingira.

The groups have established kitchen gardens on which they grow high-value crops. These include vegetables like cabbages, tomatoes, capsicum, courgette, black nightshade – locally known as managu – and onions. Vegetables are preferred because they are fast-growing and yield good returns. One benefit of the kitchen garden model is that it utilizes space efficiently, maximizing crop production. Planting of fruit and fodder trees is another practice being promoted under the climate-smart agriculture approach. The trees planted on farms also provide building materials and fuel wood. Other practices include application of soil and water conservation techniques and use of crop residue as livestock feed. These practices improve soil moisture and organic matter retention and mitigate the risk of erosion.

The Taita Hills comprise two main mountain massifs, Mbololo and Dawida, rising from the dryland below. The forests that remain on the hilltops are extensively fragmented. Taita Hills forests are part of the Eastern Arc mountains, one of 34 global biodiversity hotspots, and are ranked as one of Kenya's Key Biodiversity Areas (KBAs). Two Critically Endangered birds are only found in these forest remnants: Taita Thrush and Taita Apalis. Severe fragmentation, isolation and decline in quality and extent of indigenous forest cover in Taita Hills pose major threats which affect the breeding success and survival of the two bird species. Helping the community to conserve the forests is therefore vitally important.

The 'People Partner with Nature' program is supporting communities living adjacent to the Taita Hills forests to engage in income-generating activities, such as butterfly farming, beekeeping, eco-tourism, climate-smart agriculture, among others, that reduce pressure on the environment. The program is being implemented in partnership with DOF (BirdLife in Denmark) with financial support from DANIDA/CISU. The overall objective of the program is to 'reduce the destruction of forested KBAs and contribute to the realization of best participatory forest management practices for the benefit of all'

Barbouri gecko. PHOTO BY MUTUNDURA B



Mombasa Dwarf gecko. PHOTO BY BWONG B.A

Speke's Sand lizard. PHOTO BY MUTUNDURA B

JANUARY WATERBIRD COUNTS
CALL FOR VOLUNTEERS

Nature Kenya, the Ornithology Section of the National Museums of Kenya and Kenya Wildlife Service invite volunteers to participate in the African Waterfowl Census at the Rift Valley Lakes in January. Volunteers will camp, with meals provided. Priority will be given to those with experience or providing 4x4 vehicles. Kindly fill the volunteer form, available from the Ornithology Section or Nature Kenya Membership Office.

- NOTICE TO MEMBERS -

disappears into the sunset at mid-month. Saturn follows in early January. The waxing crescent moon is near Saturn on Dec 27 and near Venus on Dec 28-29 and Jan 28.

Mercury joins Mars in the eastern sky before dawn in December; and in January, Jupiter and then Saturn appear above the sunrise. In mid-January, reddish Mars appears close to the reddish star Antares in the constellation of the Scorpion. The waning crescent moon is near Mars on Dec 23 and Jan 21, and next to Jupiter on Jan 23.

Dec-Jan Stars

The Pleiades, a group of about five bright stars close together, are in the northeast in December. If you look at the Pleiades through binoculars, you will see many more stars in the group, surrounded by a glowing haze. To the left of the Pleiades, low in the north, is the constellation of Cassiopeia, shaped like a letter M.

To the right of the Pleiades, in the east, is the reddish star Aldebaran. Starting from Aldebaran, can you see several fainter stars making a shape like a cone? This is the Hyades cluster, also worth a look through binoculars. It's safe to look at the stars through binoculars, as they are so far away.

Below Aldebaran, in the northeast, is the constellation of Auriga, the Charioteer, shaped like a pentagon. The star Capella is the brightest corner of the pentagon.

Beyond Aldebaran, in the east, the constellation of Orion – the Hunter or Warrior – is rising. In January it is still very bright, low in the southwest. Below Archernar, look for the Small and Large Magellanic Clouds. These fuzzy, hazy spots like small rounds clouds are galaxies, composed of millions of stars.

Eclipses Dec-Jan

Eclipses come in pairs, and there's a solar eclipse in December and a lunar eclipse in January. These eclipses will be hardly noticeable, however. At sunrise on Dec 26, a small part of the sun's disc will be covered by the moon. Don't look at the sun! It will be as bright as usual! Use a pin to make a hole in a piece of cardboard. Let sunlight shine through the hole, and you may notice a tiny "bite" in the spot of light. The eclipse ends at about 7 am. On January 10, the faint outer ("penumbral") shadow of the Earth will fall on the moon, from about 8 pm to midnight. The full moon will only look a little duller than usual, however.

Meteor showers

Meteors are bits of dust and rock from space that burn up when they fall in the Earth's atmosphere. They are best seen after midnight, on nights when the sky is clear and dark. The Geminids meteor shower runs from Dec 7 to 17, peaking Dec 13-14, but the just-past full moon will outshine many of them. Viewing may be better for the Quadrantids meteor shower that runs from Jan 1-5.

Moon Dec '19 –Jan '20

Dec 4, first quarter. Dec 12, full moon. Dec 19, last quarter. Dec 26, new moon.

Jan 3, first quarter. Jan 10, full

JANUARY 2020 AT A GLANCE

Jan 1st	Morning Bird Walk
Jan 8th	Morning Bird Walk
Jan 15th	Morning Bird Walk
Jan 18th	FoCP Nature Walk
Jan 19th	Sunday Bird Watch
Jan 22nd	Morning Bird Walk
Jan 29th	Morning Bird Walk
Jan 30th	FoNA Public Lecture

Bird ringing every Tuesday morning (check with Ornithology section, National Museums).

Birders Please Note! The Wednesday Morning Birdwalks meet at 8:30 am at the Nairobi National Museum. Transport is on a self-help basis. The group meets in the courtyard of the Nairobi National Museum, past the entrance to the galleries. We normally return at about 12:30 pm.

The Sunday Birdwatch on the THIRD Sunday of each month now also meets at 8:30 am, at the same location. It is a day trip; please bring water and lunch.

Mombasa Birdwalks On the 3rd Saturday of each month. For meeting time and place, please contact Taibali Hamzali <thamzali@gmail.com> / 0733-980540; or Doris Schaule <dorischaule@gmail.com> / 0722-277752. Or check Facebook page <https://www.facebook.com/groups/FFJmombasa/>

Contact the office for information on other birdwalks in Kakamega, Kisumu, and other sites

Ngong Forest walks - 1st and 3rd Saturday at 9 00 am. Contact Simon 0729-840715

Kindly register for the FoO 2019 Course that will take place at

Elsamere Field Study Centre, Naivasha from

26th March - 3rd April 2020

Participation fee is KSh 60, 000 for Kenyan citizens and US $700 for residents and foreign participants.

ONLY 20 PLACES AVAILABLE

For more information send an email to:
foo@naturekenya.org

The **Checklist of the Birds of Kenya 5th edition** is now available at the Nature Kenya shop.

Price: Ksh. 200
US $2* (overseas)
*Mailing charges not included.

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